

REMARKS

Claims 1 to 32 are currently pending.

In view of the following, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

With respect to paragraph 3 of the Office Action, claims 1, 3, 6 and 10 were objected to because of informalities. Specifically, the Office Action "*does not believe that 'a hardware' can be referred to. However, 'the hardware' or 'a hardware component' may be referred to.*" In response, the Applicants note that the previous usage of the preposition "a" before the term "hardware" in these claims was intended only for the purpose of providing proper antecedent basis for the term "hardware." Although this objection may not be agreed with, to facilitate matters, the term "a hardware" has been amended to instead recite "hardware." Therefore, it is respectfully requested that the objections to the claims be withdrawn.

With respect to paragraph 5 of the Office Action, claims 1 to 4, 6 to 8, 10 to 14 and 16 to 32 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,489,414 to Titherley (hereinafter the "Titherley" reference) in view of the Plug and Play ISA Specification, jointly by Intel and Microsoft, (hereinafter the "Plug and Play" reference) and further in view of "Transforming the PC: Plug and Play" by Halfhill (hereinafter the "Halfhill" reference).

To reject a claim as obvious under 35 U.S.C. § 103, the prior art must disclose or suggest each claim feature and it must also provide a motivation or suggestion for combining the features in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)). Thus, the "problem confronted by the inventor must be considered in determining whether it would have been obvious to combine the references in order to solve the problem", Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 679 (Fed. Cir. 1998).

The Applicants respectfully submit that the Office Action has not established a *prima facie* case of obviousness. Specifically, there is no valid motivation to combine the "Titherley" reference with either the "Plug and Play" reference or the "Halfhill" reference.

The nature of the subject matter of the "Titherly," "Plug and Play" and "Halfhill" references is such that it would not be obvious to one of ordinary skill in the art to modify the "Titherley" reference using either the "Plug and Play" reference or the "Halfhill"

reference. Generally speaking, the “Titherley” reference is directed to testing computer peripherals with portable test equipment. At any one time, the portable test equipment is only attached to one peripheral under test, or at most a plurality of serially attached devices, such as daisy chained devices described at col. 5, lines 1-5.

In contrast, the “Plug and Play” reference is directed to arbitrating conflicting demands for system resources by a plurality of cards attached to an ISA bus. The plurality of cards are all simultaneously attached to the ISA bus, creating a situation in which the plurality of ISA cards are effectively attached in parallel. Thus, the aim and technological bent of the “Plug and Play” reference is to arbitrate simultaneous requests from a plurality of parallel devices. Accordingly, it would not be obvious to one of ordinary skill in the art to apply such a technology arbitrating simultaneous and parallel requests, as described in the “Plug and Play” reference, to the single or serial device situation of the “Titherley” reference because one of ordinary skill in the art would not think to apply a technology created for parallel devices to a situation involving a single or serial devices. In other words, there are no conflicting requests for system resources in the “Titherley” reference, and therefore one of ordinary skill in the art would not be motivated to apply a technology for resolving such parallel resource request conflicts to a situation that did not involve parallel resource request conflicts.

Still further, the Applicants respectfully submit that the motivation to combine the references provided by the Office Action is not valid in the context of modifying the “Titherley” reference with either the “Plug and Play” or the “Halfhill” references, and thus does not provide proper motivation to combine these references. Regarding the motivation to combine, the Office Action states on page 5 that *“it would have been obvious to one of ordinary skill in the pertinent art at the time of the applicant’s invention that applying plug and play functionality to Titherley would be able to reduce the complexity of the system, which is a burden to the user, and thus automate the system.”*

However, the Applicants respectfully disagree that modifying the “Titherly” reference to apply plug and play functionality would in fact reduce the complexity of the “Titherley” reference. It is instead submitted that applying the plug and play functionality would greatly increase the complexity of the system of the “Titherley” reference. For example, the portable test equipment of the “Titherley” reference would need to be modified and enhanced to communicate with plug and play devices in a manner that would accomplish the “Plug and Play” functionality, for example steps 1-7 as shown in FIG. 2 on page 5 of

the “Plug and Play” reference, which is significantly more complex than the manner in which the “Titherley” reference already communicates with the peripheral under test. Thus, the portable test equipment of the “Titherley” reference, if modified by the “Plug and Play” reference, would greatly increase in complexity. Therefore, contrary to the assertion in the Office Action, one of ordinary skill in the art would be dissuaded from modifying the “Titherley” reference with the “Plug and Play” reference due to this increased complexity, which would be burdensome in the design and manufacture of the portable test equipment.

Also, there would also be no motivation to modify the “Titherley” reference with either the “Plug and Play” or the “Halfhill” references because such a modification would not actually even provide any benefit to a user of the portable test equipment of the “Titherley” reference. The Applicants respectfully remind the Office that, as stated in the MPEP at section 2143.01.III, “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination” (some emphasis added). The peripherals that the “Titherley” reference were intended to test are not plug and play enabled peripherals. Thus, even if the portable test equipment of the “Titherley” reference were modified to work with plug and play peripherals, it would not provide any increased functionality to the portable test equipment because the “Titherley” reference does not test plug and play peripherals. Accordingly, one of ordinary skill in the art would not be motivated to combine the “Titherley” reference with the “Plug and Play” and “Halfhill” references because it would not be desirable to do so because there would be no benefit.

Furthermore, it would at least be overly burdensome to modify all of the devices that the “Titherley” reference is intended to test to be plug-and-play enabled. For evidence of the incredible difficulty of such a task, the Office is directed to the “Halfhill” reference, which discusses this at length. The Applicants respectfully remind the Office that, as stated in the MPEP at section 2141.02.VI, “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (some emphasis added). The “Halfhill” reference states of page 1, for example, “[a]nd although Plug and Play does a remarkable job of making PCs friendlier while maintaining compatibility with existing hardware, it also requires that you eventually replace almost all that hardware.” Within the context of the “Titherley” reference, this requirement to replace all hardware would at the very least be incredibly

burdensome, and would consequently dissuade one of ordinary skill in the art from modifying the "Titherley" reference.

Therefore, there is no valid motivation to combine the "Titherley," "Plug and Play" and "Halfhill" references, so that independent claims 1, 6, 10 and 32, as well as their respective dependent claims 2 to 4, 7 to 8, 11 to 14 and 16 to 31, are allowable.

With respect to paragraph 32 of the Office Action, claims 5, 9 and 15 were rejected under 35 U.S.C. § 103(a) as unpatentable over the "Titherley" reference in view of the "Plug and Play" reference and further in view of U.S. Patent No. 6,182,203 to Simar et al. (hereinafter the "Simar" reference).

Claims 5, 9, and 15 depend from independent claims 1, 5 and 10, and are therefore allowable over the "Titherley" reference in view of the "Plug and Play" reference for the reasons explained above. Moreover, the third-level "Simar" reference does not cure the critical deficiencies of the primary and secondary references as explained above. Therefore, claims 5, 9, and 15 are allowable over the "Titherley" reference in view of the "Plug and Play" reference and also in view of the "Simar" reference.

Accordingly, claims 1 to 32 are allowable.

CONCLUSION

In view of the above, it is respectfully submitted that all of the presently pending claims 1 to 32 are allowable. It is therefore respectfully requested that the objections and rejections be withdrawn, since they have been obviated. Since all issues raised have been addressed, an early and favorable action on the merits is respectfully requested.

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Respectfully submitted,

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